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ABSTRACT

This report describes the development over three trial semesters of a required course for sophomores at Baker University (Kansas) to develop reasoning and critical thinking skills that would prepare them for a required senior capstone course. The report describes the work of the faculty team that prepared two textbooks ("Reasoning and Writing: An Introduction to Critical Thinking, and "Reasoning and Thinking,") designed to integrate instruction in written composition and critical thinking with the study of primary texts, and which included readings from classic texts, discussion questions, and other course material. Evaluation of the process suggested the following: focused training is recommended for humanities faculty who are not comfortable teaching material where answers are either right or wrong; faculty who teach critical thinking must themselves understand logic and be able to pass the understanding on to students early in the semester; writing is best taught in a trial-and-error process with much student-faculty interaction; critical thinking courses should be student-centered, using discussion questions rather than lectures; evaluation of reasoning and writing skills is difficult and time-consuming; and faculty members should be drawn in equal numbers from humanities, sciences, social sciences, and other departments. Appended are course descriptions and reading assignment lists. (BF)

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Cover Sheet

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Project Summary

In order to address student deficiencies in reasoning and writing, a group of Baker faculty were given released time for two years to work on a one-semester course to integrate instruction in reasoning skills (critical thinking) with the study of primary texts often taught in the humanities. Upon the suggestion of one of our consultants, we decided to alter the project to a two-semester sequence that would integrate instruction in reasoning skills with written composition, while using classic texts as our readings. The new sequence began this fall with ten sections for entering freshmen and two for transfer students. The first semester focuses on instruction in critical reading and reasoning skills, and the application of these skills to paper writing. The second semester asks students to employ these skills as they study primary texts from a variety of fields and write position papers. Formal assessment consists of pre and post testing with the Test of Standard Written English and the Ennis-Weir Critical Thinking Test. Attitudinal surveys concerning the nature of general education will be given to all students when they are seniors and compared with baseline data gathered this year.

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Executive Summary
Critical Thinking and the Liberal Arts
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A. Project Overview: The initial project, begun in August of 1988, was to design a one-semester course required of all sophomores. The course would provide instruction in reasoning skills along with the study of primary texts often taught in the humanities.

The project began with four of the faculty attending the Sonoma State Conference on critical thinking. While there, besides attending workshops and papers on critical thinking, we contacted two of our three initial consultants for the project. Beyond this, the purpose of attending the conference was to allow staff who were not familiar with critical thinking to submerge themselves in the disciplinary and theoretical debates.

At the end of August, the staff began meeting twice weekly to plan the new course. We decided to begin by reading a book written by one of our consultants, Harvey Siegel's Educating Reason. We believed that discussion of the theoretical issues concerning reasoning and its application to various disciplines was essential before we could hope to agree on how the course should be developed. This was a wise choice because it allowed people time to discuss openly fundamental disagreements that could otherwise could have been masked when discussing more specific questions concerning the design of the course. The scope of reason's applicability to solving human problems is one such issue.

Upon the suggestion of our consultant, Harvey Siegel, we soon decided to change our course into a two-semester sequence integrating instruction in written composition and critical thinking with the study of carefully chosen primary texts. "Why," he asked, "should writing be taught apart from or prior to critical thinking?" We all agreed that we were interested in teaching students three things: reading for understanding, critical reasoning for evaluation, and the clear articulation of the ideas the are the fruits of such analyses. By the middle of October we were working on a course schema that would achieve this end -- and praying for another FIPSE Grant.

According to our original proposal, we were slated to offer two trial sections of the original one-semester course by February of 1989. From the middle of November on, much time was spent preparing materials for these trial sections. We knew all along that this would not be a course like "the finished product," even though the reading materials and exercises would overlap. By working through the Christmas break, we created a course, with

exercises, and readings. By February, the course materials were ready, the courses offered, and we all learned a lot about what works and what doesn't in teaching students to read, write, and think critically.

In July 1989, we learned that our request for an additional FIPSE Grant to expand and finish the project had been funded. We worked for the next year designing the sequence and writing a text for the new course.

B. Purpose: The initial problem we were addressing was inadequate student preparation for a required senior capstone course, "Science, Technology, and Human Values." In their senior year, all Baker students are asked to write, present, and defend a position paper on a public policy issue related to new technologies or scientific development. Many of our seniors were bereft of skills needed to do an acceptable project, e.g., formulate an argument or evaluate critically the arguments of others. The new course sequence would address that problem.

In addition, having had some familiarity with the "critical thinking movement," and with the problems of assessing success in teaching reasoning skills, we saw our project as a way of experimenting with teaching techniques and assessment models.

C. Background and Origins: Baker University's particular problem was somewhat unique because only relatively small liberal arts colleges have such required courses for all graduating seniors. Having an undergraduate enrollment of around 850 allowed us to develop such a senior program and to have realistic expectations about putting together and staffing a required sequence in critical thinking and written composition. Such colleges tend to have faculty who are far more at ease in interdisciplinary adventures than those at larger research- oriented schools. It is also easier for the administration of small schools to commit resources to such an undertaking. It is easier to staff 10 to 12 sections of a course per semester than the hundreds required at a larger institution.

While the situation is peculiar to small schools, the problem of enhancing reasoning abilities and assessing one's efforts is ubiquitous in higher education. Hence, if we are successful in setting up and monitoring our program, much can be learned. (We are applying for a three-grant to help us continue careful assessment.)

Project Description: In our attempts to create a new sequence, the main activities involved getting clear on what it was we wanted the course to accomplish (instruction in critical thinking and writing coupled with learning to read the classic texts). Once we were clear on this, we developed our own text to achieve our goals. The process of ten faculty writing a text was a trying, but ultimately

fulfilling experience. The real payoff came when three writers of critical thinking texts reviewed the text and declared it to be a good text for achieving our unique purposes. Only using it this fall has been a better experience.

Project Results: Because the full program has only just begun, it is impossible to say anything conclusive about results. Having taught the trial sections in the spring semester, we learned that some things work and others do not: First, if anyone is going to teach critical thinking it is essential that they understand logic and that this understanding is passed on to the students early in the semester. Second, writing can best be taught as a trial and error process with much student-faculty interaction in the form of conferences, drafts, and rewrites. Third, critical thinking courses should be student-centered. The texts should be discussed through the use of discussion questions, rather than lectures.

We also learned that assessing reasoning and writing skills is difficult, and grading even more so. The tests, such as the Ennis-Weir Critical Thinking Test, ask students to provide lengthy written responses. The Critical Thinking Essay Test that we used on a trial basis asks students to construct an argumentative essay. Grading such tests is very time consuming, and we did not have high reliability with the CT Essay Test.

While our initial test results were not conclusive, many of the staff have managed to give presentations at various conferences describing our project: The Critical Literacy Conference in Chicago, The National Humanities Education Conference in Kansas City, and the Sonoma Conference on Critical Thinking and Moral Critique. There seems to be great interest in what we are doing.

Summary and Conclusion: As the project director, there are a number of things worth noting. Some quite surprising. First, it is never easy to achieve agreement in a group of faculty from different disciplines. Enthusiasm at the beginning is not the same as "likemindedness." Anyone who desires to be a project director should be prepared for confrontational situations. Second, from the beginning each participant must be willing to compromise or change a position in light of new arguments. Third, because projects seldom progress on schedule, it is better in program development to plan for at least two years with ample time for theoretical discussion, trial runs, and revisions. Only through running trial semesters for three semesters were we able to determined what approaches and reading worked best.

Body of Report

A. Project Overview: Since 1979, Baker University has had a required senior seminar, "Science, Technology, and Human Values." All seniors are asked to write, present, and defend a position paper dealing with a public policy issue that involves ethical values and grows out of particular scientific or technological developments. Typical projects include nuclear waste storage, acid rain legislation, and fetal research. While we are considered a quality liberal arts college, the staff who teach the senior capstone have always bemoaned the preparation of many of our seniors. While they tend to be literate, they have trouble both constructing and evaluating arguments--two of the most needed skills in researching and writing such a position paper.

In 1983, in an attempt to address this deficiency, we revised our general education program to include instruction in "critical thinking." Faculty in the humanities were asked to revise their general education courses to emphasize instruction in the critical evaluation of texts and argumentative writing. Students were required to take four such courses from three different disciplines including history, religion, literature, political science, and philosophy.

After five years of such an approach, there was little difference in student performance. Many students were arriving at their senior year bereft of their needed skills. In 1987, we decided to apply for a FIPSE Grant to help us develop a required

course that would provide instruction in critical thinking (reasoning and logic) coupled with the study of primary texts often read in the humanities. That way, no one would become a senior and not understand how to construct and evaluate arguments.

Upon receiving the grant, four of the six faculty attended the critical thinking conference at Sonoma. The purpose was to familiarize the unfamiliar with "the critical thinking movement" and to locate consultants who were especially suited for our project. Because of its size and reputation, the Sonoma conference is a gold mine of personnel and literature dealing with teaching critical thinking.

We decided to use three consultants: Harvey Siegel, author of Educating Reason and an expert in epistemology and theoretical issues; Stephen Norris, co-author with Robert Ennis of Evaluating Critical Thinking and an expert in assessing reasoning skills (and the problems thereof); and, Jerry Nosich, who specialized in integrating critical thinking into classroom assignments. our consultants were instrumental in making the progress we did.

Throughout the remainder of the year, the six staff members met twice each week to work on the new course and develop appropriate course materials. Interspersed throughout the first year were visits from our three consultants and our Program Officer, David Arnold.

Upon the advice of Harvey Siegel, we decided to expand our project to a two-semester course that would integrate critical thinking and written composition, with the study of classic texts

considered to be foundational for understanding Western culture. This decision, of course, influenced our activities. For example, as we planned the trial section of the course, we planned it as if this would be only a first semester of a year long sequence.

By working through the holidays, we managed to prepare a handbook of readings, discussion questions, and other course material. In February of 1989, we offered two trial sections of the course. In the mean time, we received word that we had attained the additional FIPSE Grant.

The trial sections of the course were not well structured to achieve the purposes that we wanted to achieve. Our plan was to intersperse instruction in critical thinking with readings such as Hesiod, the Bible, Plato, and others. Prior to discussing the readings, discussion questions would be handed out, and students would be ready to discuss the ideas on the assigned day. After discussion each reading, students would then write a position paper. Prior to the actual writing of the paper, each student would meet with the instructor to discuss the paper. Such conferences, teaching such primary texts, and making students responsible for in-class discussion were all good ideas, ideas that we will continue to employ. The problem though is that without careful "up front" instruction in logic and critical thinking, our freshmen were not equipped to write the required argumentative papers. When their meager attempts were graded, they rightfully objected that they could not be expected to construct argumentative papers without instruction in

argumentation. This complaint led us to write the text that we wrote during the twelve months the spring semester. It led us to the decision to spend six or seven weeks talking about logic and reasoning, prior to assigning any significant papers.

Trial sections of the new approach were offered both in the fall of 1989 and spring of 1990. These sections were models of what was to be the first semester of the freshmen sequence. According to student evaluations, this approach with careful instruction in critical thinking techniques was much more successful.

One problem, however, is that not all faculty feel comfortable teaching a bit of logic or explaining the nature of induction or controlled experimentation. While humanities faculty feel at home leading discussions over literature or other readings that are outside of their disciplines, they do not feel equally at home teaching material where there are in fact right and wrong answers, where errors in understanding are obvious. This was a bit of a problem, but through some careful faculty development, not the least of which being actively involving all of the staff in writing the text, most (but not all) feel comfortable with the material. With normal faculty turnover and sabbaticals we will need to involve new faculty in teaching the course. These will likewise need to be given instruction. (We are applying for yet another FIPSE Grant to carry out a series of summer seminars for this purpose.)

While we were offering trial sections of the first course in

the new sequence, we also offered a section of written composition that modelled what we envisioned doing in the second semester of the sequence. Using the Test of Standard Written English (TSWE) as our assessment tool, we wanted to see if teaching composition through having students read primary texts and write position papers would teach them the fundamentals of English grammar and composition as well as other more traditional approaches. To our pleasant surprise, students in the trial section scored even higher on the TSWE than those in five other sections that were modelled on more traditional approaches. This experiment helped overcome the skepticism of some of our English department faculty.

Throughout the summer of 1990, some of the project faculty worked on revising our text. In the fall, we offered ten sections of the course to freshmen and two special sections for transfer students.

At this time, all seems to be going well. We are looking to the second semester which will consist of students reading and discussing texts from a variety of disciplines and writing position papers in response to the texts. The course will be student-centered and use discussion questions to guide textual examination and inquiry. We will also use student faculty conferences as a way of improving writing skills. (A copy of the first semester text and course descriptions accompany this report.)

B. Purpose: The "Critical Thinking and the Liberal Arts"

project aimed at enhancing students' reasoning and writing skills and to introduce them to some of the classic texts of the Western tradition. We have succeeded in putting together a two-semester course that included instruction in all three elements.

The instruction in reasoning skills was done through the study of our text, Reasoning and Writing: An Introduction to Critical Thinking. Student writing is enhanced through having students write a series of seven critical papers in response to readings from primary sources. One tactic that seemed to help students become more self-conscious of the writing process was to ask them to meet with the faculty with an introduction and outline to their papers prior to writing a draft. Such conferences were very helpful in getting students to think carefully about a position prior to writing.

The most successful part of the trial sections of the course was the discussion of the texts. Students were assigned particular discussion questions for the reading each day. Long lists of the questions were created by the staff, and each faculty chose which to use in the section. The students responded to this challenge very positively. Students like to be active participants in a class. What was enigmatic was how some students seemed able to handle discussion questions in a sophisticated manner, while not being able to write strong papers over the issues. Perhaps talk is cheap, and not as closely related to writing as one might believe. As previously mentioned, students claimed the staff had not given them sufficient instruction in argumentative paper writing prior to

assigning the papers. This issue being addressed in the design of the new course. We are spending seven weeks studying the relationship between reasoning, reading, and writing. After that, papers over texts will be assigned.

Given the text's format of simple explanation and exercises in reasoning and writing, coupled with student-centered discussion, we see no reason why a course such as this cannot be taught by any intelligent faculty member from any discipline. This helps gain the needed administrative support because it does not mean that employing such a program entails hiring large numbers of additional logicians or composition teachers. Even so, anyone who attempts to set up such a program can count on continued staffing problems. The administration must be willing to hire additional faculty as needed or to screen new faculty to make sure they are interested in teaching in such a program or provide training for additional faculty already at the institution.

In addition, it is absolutely essential that whoever works on such project is willing to endorse and learn the methods of critical thinking and logical evaluation. There are people in academia, perhaps more today than ever before, who are critical of rationality and feel uneasy with logic, e.g., the current president of the Modern Language Association has recently expressed such misgivings in an interview with Lynn Cheney, Director of the NEH. Such people, while we can respect their ideas and invite them to debate their positions--by what rules we are not sure--will make the success of a project such as ours

difficult. Once a person has denounced the value of rationality and critical thinking, it is literally impossible to convince them by means of argument that they should be interested in teaching reasoning to all students.

C. Background and Origins: As pointed in the Project Overview, our project grew out of problems with student preparation for Baker University's senior capstone, "Science, Technology, and Human Values." Students were not adequately prepared to write a lengthy argumentative paper. They were lacking in the requisite reasoning skills. This, we rightly believed, was because they did not have an adequate understanding of reasoning (logic), let alone how logic could be applied to writing.

Having tried courses where "critical thinking" is taught across the curriculum, we decided to develop a required course in critical thinking. It seems now that if any "across the curriculum" approach to teaching reasoning is going to be successful, all staff must share a common understanding and appreciation of critical thinking and its application to writing. This could only be gained by formal instruction to all students for at least a year or so. Likewise, the success of our approach seems to depend on such instruction.

Having a course required of all students seems to be the most cogent way to ensure that all students possess the skills and dispositions for which we aim. This, however, may only work in either large research institutions where graduate students could teach the myriad of sections needed or in smaller liberal

arts colleges where the number of sections required is relatively small.

On the other hand, if faculty believe that institutions should support the needed sections of written composition, then they should also be willing to support sections of critical thinking. This is because thinking well seems a necessary condition for writing well.

D. Project Description: In order to develop the course, the six faculty met twice weekly throughout the 88-89 academic year. In the meetings we began by discussing theoretical underpinnings of critical thinking. To this end we worked carefully through Harvey Siegel's new book Educating Reason. The rationale for this was that unless we could agree upon the nature and scope of critical thinking, we could hardly hope to agree on a means of teaching it.

In September of 1988, Siegel made a three-day visit as one of our consultants. The staff had composed a list of questions over his book which were mailed to Siegel prior to his visit. It was during his visit that he suggested that teaching students how to think should go hand in hand with teaching students how to write. The following day the staff decided to alter our project to a two-semester sequence integrating instruction in reasoning and writing with the study of primary texts that were foundational to Western culture. As a result, nearly twice as many faculty were needed to teach the multi-sectioned courses.

Under the 88-89 Grant, we were obligated to offer two trial

sections of the new course in the spring of 1989. Soon after Siegel's visit we began to discuss what these trial sections should be like. We concluded the obvious: Students should read such texts as the Bible, Platonic dialogues, Lucretius, and Epictetus. They should be instructed in how to evaluate the positions, and they should do a good deal of writing. We also began working with Steve Norris, our consultant on assessment, in order to develop adequate assessment procedures. Norris, as well as others in the academic community, were quite excited that we were actually developing a program to enhance reasoning skills and attempting to assess our outcomes. It seems that many were trying to enhance student critical thinking skills, but no one was bothering with assessing the results of such efforts.

Because we were interested in teaching students to read and write critically, we chose assessment instruments that emphasized just those skills: the Ennis-Weir Critical Thinking Test and a Critical Thinking Essay Exam. These will be described in detail in the next section.

Towards the end of the semester our third consultant Jerry Nosich visited and gave a series of workshops on how critical thinking skills could be applied to the study of classic texts. He emphasized that students must be forced to get clear on what the text says prior to any evaluation of the arguments on the position that is taken by its author. Hence, in our new course a good deal of time is spent having students paraphrase passages and identify arguments.

As with any interdisciplinary course the selection of

readings is never easy. One must always be prepared to compromise. We ended up, after much discussion and debate, using texts from Plato, Bacon, Madison, Aquinas, and Russell in the first semester course. The second semester readings will include material from the Bible, Hesiod, Lucretius, Buddha, Epictetus, Marx, Adam Smith, Freud, Jung, J.S. Mill, and other writers from a variety of discipline. The reading will change each semester to prevent plagiarism from becoming a problem. The important thing is to use classic texts that provide different views on important questions. The students will be forced to judge which view is most reasonable and defend their judgment in their papers.

In February we began the trial sections. We gave pre-tests to both sections and to a control group. As I have already indicated, teaching these trial sections was a valuable learning experience and prepared us to plan for reasonable changes in our approach. The main things we learned were that students like the discussion format; they were also genuinely pleased with teacher-student interaction in the paper-writing process. They were also enthusiastic over the study and discussion of the classic texts. One student said it was the first "real college course" she had had. Another said he wished he could take it over. We also learned that much clearer instruction was needed in reasoning and writing. We focused too much on textual analysis and discussion, and not on reasoning skills per se.

At the end of the semester we gave post-tests to all the students in the course, as well as to a control group, and began

thinking about the revisions that would be necessary for the Fall 1989 section. We were all thankful that we were going to offer a two-semester course. If reasoning and writing is to be significantly enhanced, it takes more than a one-semester course.

Additional trial sections were run both semesters of the following year, using versions of the text we decided to work on. Students seemed to like this approach much better.

A windfall for our project occurred in the summer of 1990 when we received a FIPSE funded grant through Phillips University to run a summer seminar for some of our faculty to study the course materials we were going to use this fall. This seminar was very successful. We are hoping to be able to run similar seminars for the next two summers so that nearly all Baker faculty will be familiar with what we are teaching in our freshman sequence. It is great fun to study classic texts with people from a variety of disciplines.

As part of this grant and the Phillips University grant, we were able to bring in three textbook authors in the critical thinking movement to review our materials and to give workshops to the project staff and the Baker faculty involved in the summer seminar. These consultants included Ralph Johnson, author of Logical Self-Defense, Ed Damer, author of Attacking Faulty Reasoning, and Connie Missimer, author of Thinking Critically. Their presentations were helpful to all, but the best thing they did was to each review our text. We then spent the rest of the summer revising it in an attempt to respond to the criticisms they offered. Each made helpful suggestions, and each expressed

envy that their schools did not have a program such as the one we were creating. But, such programs take faculty and administrative support that is lacking in most schools. We are lucky.

E. Project Results: Given that the project is a two-semester sequence and that we have yet to complete the first semester of the "Real Thing," at this time it is difficult to draw any final conclusions.

The best thing is that we have accomplished what we set out to do. We have a two-semester required sequence for all freshmen that provides overt instruction in critical thinking, reasoning, and writing, combined with the study of primary texts. Last spring, the Baker faculty voted to accept the courses and to make them a part of our general education requirements. Secondly, according to our consultants, we have put together a good textbook designed to achieve our stated purposes. (Whether anyone else will be interested in adopting our approach, and hence the text, remains to be seen.) Third, we have in place nationally accepted tests aimed at assessing the courses to see if we have indeed improved students' reasoning and writing abilities; i.e., the Ennis-Weir Critical Thinking Test and the Test of Standard Written English.

After grading the Ennis-Weir and the Critical Thinking Essay tests from the trial sections, some conclusions can be drawn.

First, after a little practice our project staff were able to grade the Ennis-Weir tests with a correlation of .90. That's

terrific. Secondly, this passed summer, we were able to train student workers to grade the essays and they had a correlation of .85. So, in the future, we will try to use student help for this time consuming process.

Unfortunately, for the trial sections of the course, there were few significant increases in student scores on the Ennis-Weir Critical Thinking Test. What this tells may indicate is that there may be a problem with motivating students to do well on the post tests. This is because no part of their grade depended upon doing well on either test. This year we have given both pre-tests to all freshmen and transfer students. At the end of the year we will give post-tests as part of their final exam. While they will not fail the course if they do poorly, their grades will be affected. This should make them take the exams seriously.

For the purpose of gaining reliable data, such exams must be graded blind without knowing whether the exam is a pre or a post-test or who's class it was. So the grading for purposes of assessment and dissemination must wait until the end of the semester. This year's staff did not finish until in July--long after course grades were turned in.

As most people who are concerned with teaching reasoning skills know, assessment is a terribly important yet problematic area. While the data we collected this year is in itself not particularly significant, it does provide us with a base by which we can evaluate our future efforts. We plan to continue administering these same tests over the years. If we can get

some additional funding, we will work on developing testing materials that are somewhat easier to grade. (As of now, however, all of our consultants agree that for the purposes of testing reading, thinking, and writing skill, the Ennis-Weir Critical Thinking Essay Test is the only acceptable tool on the market.

Again, the only problem is with grading the tests. It is a time consuming and labor intensive job. I plan to request additional funds from FIPSE to pay faculty and students to do the grading during the summers.

We are in a good position for the dissemination of our project results. Having formed the Baker University Center for Critical Thinking in 1986, many of the staff are veterans at giving in-service workshops. We are known in the area and will be asked for continue such work. During last year alone, project staff members gave presentations describing our project at three national conferences: The National Humanities Education Conference in Kansas City in April, The Critical Literacy Conference in Chicago in May, and The International Conference on Critical Thinking and Moral Critique at Sonoma University in August. We also gave in-service workshops on teaching critical thinking at two regional colleges: Tabor College and Colby Community College. In addition, materials describing our project have been sent to many deans and faculty throughout the United States, Canada, and Britain, who, upon reading about the project in various critical thinking journals, wrote to ask for a description and course materials. We wish we could now send them

a copy of the text, but it is nearly 300 pages long and costs us a lot to produce.

Further efforts for dissemination include plans to involve additional faculty (both from Baker and other institutions) in summer workshops to study the course materials: both the text and the readings from classic texts. We believe that it is important for all of our faculty to know what is being required of all freshmen. If we are funded in our current FIPSE grant request we will run such workshops for the next two summers. It has also been suggested that we invite a few area high-school humanities teachers to join the seminars. We believe that our job as professors would be made much easier if more high school teachers took seriously the teaching of reasoning and writing and were also familiar with the sorts of texts typically taught in liberal arts colleges such as ours.

Summary and Conclusion: In conclusion, thanks to the released time provided by the grants, we have created a new two-semester sequence that integrates instruction in critical thinking and written composition with the study of classic texts. We have also created a critical thinking text, Reasoning and Writing, that is unique and seems adequate for our purposes. For ten faculty from different disciplines to complete such a text was itself a great experiment in critical thinking. We each had to learn to live by the rules of critical thinking as each person's work was criticized by other members of the group. It was a very beneficial experience for us all. Faculty, like students, learn

best when they are actively engaged in critical thinking about real issues and problems, rather than passively discussing or, worse yet, listening to a presentation. Working on such a text that had to be completed by August of 1990 was active engagement at its highest.

One problem with the project was time. It would have been better to have a three-year grant that allowed more planning time before we had to offer the trial sections. Some members of the staff did not yet have a clear enough understanding of the nature of critical thinking and the role the logic plays in both evaluating and constructing arguments.

Another suggestion that I would make for such interdisciplinary projects that involve critical thinking is to include equal numbers of faculty from the humanities, sciences, social sciences, and other departments. Critical thinking involves skills that transcend all disciplines, and it is a mistake to build a program with only input from people trained in the humanities. For example, the social scientists involved in the summer seminar funded by Phillips University not only understood what we were doing, but made invaluable suggestions for clearing up our chapter on inductive logic. This would also make the program easier to sell to the entire faculty. Because we were all from the humanities, there was some skepticism when we claimed that this new course was not a humanities course, but taught skills that transcended disciplines.

I would also warn any potential project director to be ready to work harder that he or she ever imagined in an attempt to keep

the project on track and moving toward its completion. Even though faculty were given both release time and stipends to prepare the needed materials, it is a constant effort to make sure deadlines are met. Ones popularity will no doubt suffer.

Now that we have finished, and things seem to be going well, I see no reason why colleges of all sorts cannot restructure their written composition sequences and provide instruction in reasoning prior to writing. The strategies we provide for constructing arguments are the same strategies one should use to construct papers.

Appendix

1. I would like to add that one reason our project was successful was because of the continued encouragement and helpful advice from David Arnold. During his visits to Baker University he provided the sort of positive reinforcement and encouragement that we all needed as we haggled over different conceptions of the program. He let us know that FIPSE thought this was a very important project, one that we could be proud of if we who were working on it did a good job.

The second person who was very helpful was Juanita Bowe. As expected, we had to make some changes in our budget line items. Juanita worked diligently to make sure I could accomplish the goals of the project and acceptably alter the budget.

2. The biggest mistake that I made was to write such a proposal for only one year. While it was impossible to write another proposal and finish the grant, all would have worked much more smoothly if I had begun with a two or three year plan. FIPSE should be very skeptical of one-year proposals that claim they will create a new educational program, run trial sections, and have it running in two-semesters.

The other mistake that I made was not to pay myself a stipend. While I had one-half reduced time throughout the project, I found myself working more hours and suffering more anguish than I ever imagined. Check the resumes of project directors carefully to make sure they show evidence of being able to deal with such responsibilities and pressures. Several times I was reminded of the proverb, "Be careful for what you wish, because you might get it."

I am certainly glad that we received the grants and have the new sequence in place. We believe that our project and our assessment techniques will be of interest to many. In looking back though, I realize that I have written very few scholarly articles in the past two years, yet prior to the grants I would publish two to three each year while teaching my courses. That indicates the amount of work directing the project requires relative to my normal academic activities.

CRITICAL READING AND WRITING (LA 101)

Course Description

This course is designed to teach students to read carefully, to think critically, and to write clearly and persuasively. These skills are essential for success in college. We intend to achieve these objectives through instruction and practice in critical thinking and writing skills combined with the study of primary texts. The primary method of instruction is based on student participation. Students will be responsible for preparing the assigned material and for actively participating in class discussions.

Course Objectives

1. To instruct students in the practice of reading difficult material carefully and critically.
2. To impart to students a disposition to question the reasonableness of claims, beliefs, evidence, and inferences in what they read and hear.
3. To instruct students in the fundamentals of good reasoning, including the nature of deduction, induction, and informal fallacies.
4. To instruct students in strategies for developing arguments and writing and revising expository essays.
5. To introduce students to significant primary texts.

Grading Criteria

Class preparation and participation	(10%)
Collected written exercises and essays	(20%)
Three critical papers	(30%)
Mid-term exam	(15%)
Final exam	(25%)

Academic Policies

The academic expectations for this course are consistent with those described in the Baker University Student Handbook, Section V. No work determined to be plagiarized or counterfeit, wholly or in any part, shall be acceptable. Any instance of academic misconduct shall result in failure in the course. The infraction will then be reported to the Academic Standards and Policies Committee. Current Baker policy is that any grade resulting from academic misconduct is identified as such on the student's transcript.

Attendance Policies

Attendance is required. Any student who misses more than five classes will fail the course.

LA 101 Schedule of Assignments

August	
W -- 29	Reasoning and Writing: Introduction: Why Critical Thinking?, pp. 1-20, Exercise 1.6
F -- 31	R&W, Grammar review, Rules for written work, Appendices A & B, pp. 277-295
September	
M -- 3	Labor Day
W -- 5	Reading: Plato, "Allegory of the Cave" pp. 23-30. Discussion questions, p. 21
F -- 7	Reading: "Allegory of the Cave"
M -- 10	In-class essay, "A Defense of Critical Thinking," "The Problems with Thinking Critically," or "A Critique of Critical Thinking"
W -- 12	R&W - Ch 2 - "What is CT?" Exercise 2.2
F -- 14	R&W - Ch 2 - "What is CT?" Exercises 2.3 and 2.4
M -- 17	R&W - Ch 2 - "What is CT?" Exercises 2.5 and 2.6
W -- 19	R&W - Ch 3 - "Understanding What You Read"; Identifying Emotive Language, Exercise 3.1, Summarizing, Exercise 3.2
F -- 21	R&W - Ch 3 - Summarizing, Exercise 3.2 continued
M -- 24	R&W - Ch 3 - Summarizing, Exercise 3.2
W -- 26	R&W - Ch 3 - "Opinions, Arguments, Enthymemes," Exercise 3.4
F -- 28	R&W - Ch 4 - "Evaluating Arguments," (Deduction),Exercise 4.2, 4.3
October	
M -- 1	R&W - Ch 4 - "Evaluating Arguments," (Proving Validity), Exercise 4.4
W -- 3	R&W - Ch 4 - "Translating Arguments," Exercise 4.5
F -- 5	Reading: "The Federalist Paper #10" (summarize, symbolize, and evaluate the argument)
M -- 8	R&W - Ch 5 - "Evaluating Premises," (Induction), Exercise 5.6,A
W -- 10	Reading: Francis Bacon, "The Four Idols" (summarize the major points of each paragraph)
F -- 12	Bacon
M -- 15	R&W - Ch 5 - "Analogical Arguments," Exercise 5.6,B
W -- 17	In-class critical essay #2, "The rights of animals," or other topics given in Exercise 5.6,B2
F -- 19	No Class Mid-term Break
M -- 22	R&W - Ch 6 - "Informal Fallacies," Exercise 6.1, 6.2

Ideas and Exposition
LA 102 Readings

1. Theme -- Origins

   Genesis, Chps. 1-9
   Hesiod, "Theogeny" (selections)
   Lucretius, On the Nature of Things (selections)

   Conferences
   Paper #1

2. Theme -- Human Happiness

   Buddha, "The Dhammapada" (selections)
   Epictetus, Enchiridion
   Shaw, Major Barbara

   Conferences
   Paper #2

3. Theme -- Human, Natural, and Divine Law

   Exodus, "The Ten Commandments"
   Jesus, "Sermon on the Mount"
   Aquinas, Treatise on Law

   Conferences
   Paper #3

4. Theme -- Personal Identity

   Jung, "Anima and Animus"
   Horney, "The Distrust Between the Sexes"
   de Beauvoir, The Second Sex, Chapter Three

   Conferences
   Paper #4

5. Theme -- Love and Friendship

   Plato, "Symposium"
   Ovid, The Art of Love (selection)
   Firestone, The Dialectic of Sex (selection)

   Final Paper Due